

PublicHealth theate-asso.

SSI Surveillance and Reporting Protocols

Updated July 2011

HAI Liaison Program
Healthcare-Associated Infections Program
Center for Health Care Quality
California Department of Public Health

Section Objectives

- Demonstrate NHSN Monthly Reporting Plan set up
 - For Procedure-associated SSI Module
- Demonstrate data entry for NHSN procedure data
 - Discuss data import options (e.g. CSV file upload)
- Review NHSN key terms and SSI definitions
- Review NHSN data collection forms and data entry requirements





SSI Surveillance and Reporting via NHSN



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National Healthcare Safety Network (NHSN)

www.cdc.gov/nhsn/TOC_PSCManual

NHSN

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Patient Safety Component

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▶ Patient Safety Manual

Healthcare Personnel Safety Manual NHSN > NHSN Manuals

NHSN Patient Safety Component Manual

NHSN Forms Update

Vaccination Module Update

The **HRIIV Module** is being replaced with the **Updated Vaccination Mod** back in a few weeks.

Table of Contents

- Identifying Healthcare-associated Infections (HAIs) in NHSN [PDF 84KB]
 March 2009.
- Patient Safety Monthly Reporting Plan P

Device-Associated Module

4. Central Line-Associated Bloodstream Infection (CLABSI) Event 🔁 [PDF - 169KB]

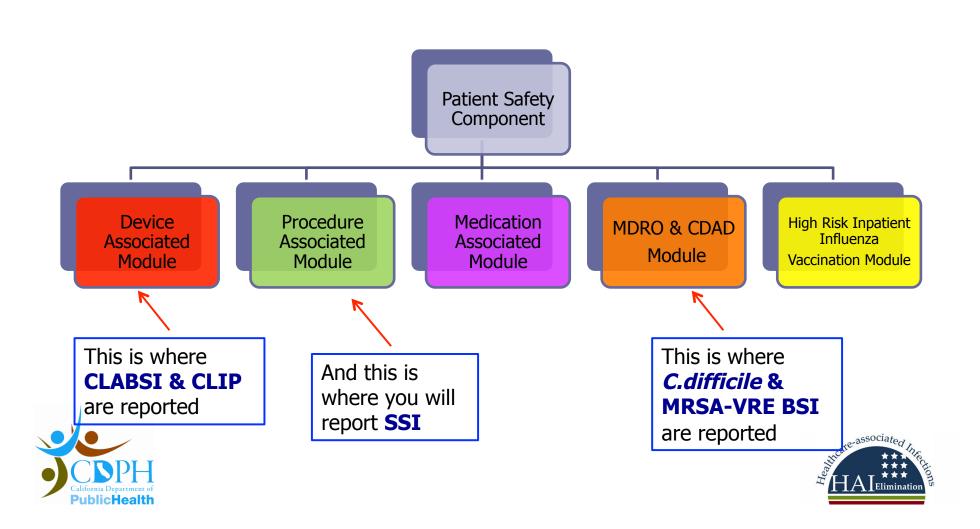
Procedure-Associated Module

Surgical Site Infection (SSI) Event [PDF - 258KB]
 Guidelines and procedures for monitoring SSI.
 October 2010

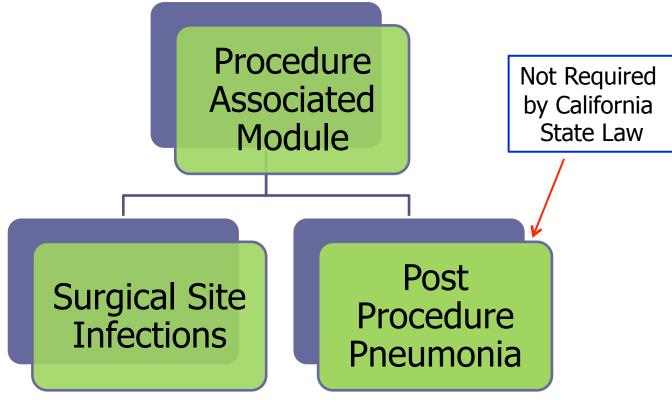
Must follow NHSN protocols for identifying and reporting SSI and procedure information



National Healthcare Safety Network (NHSN)



Procedure –associated Module Components





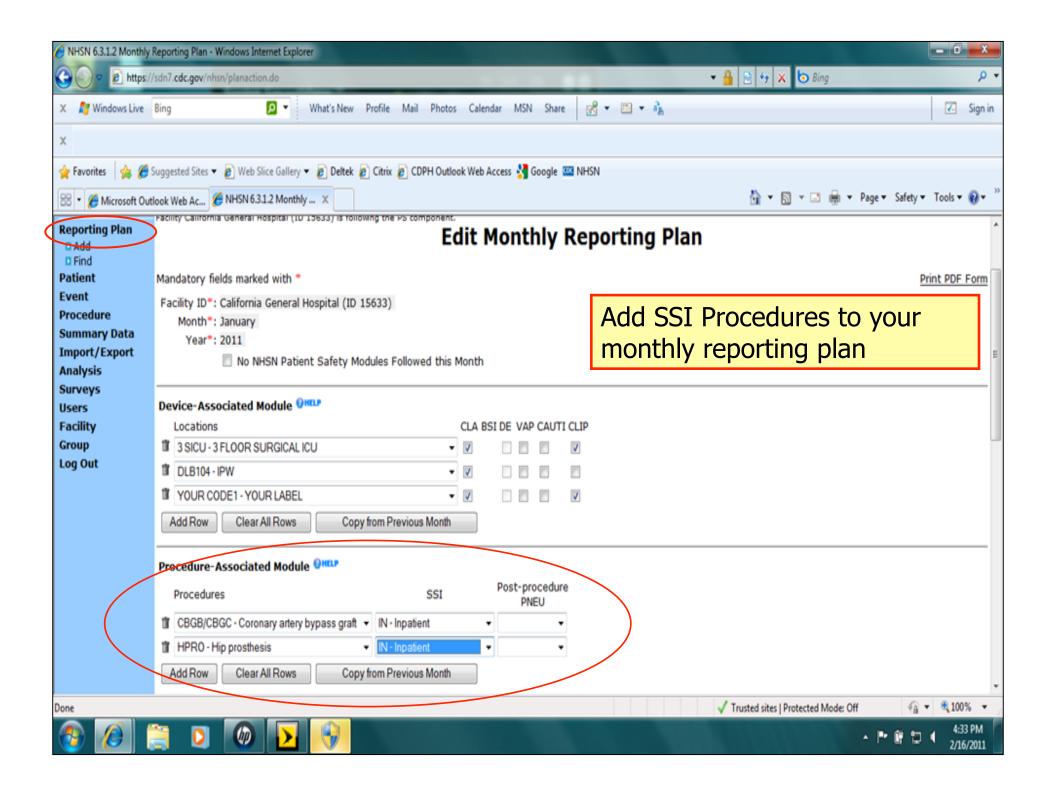


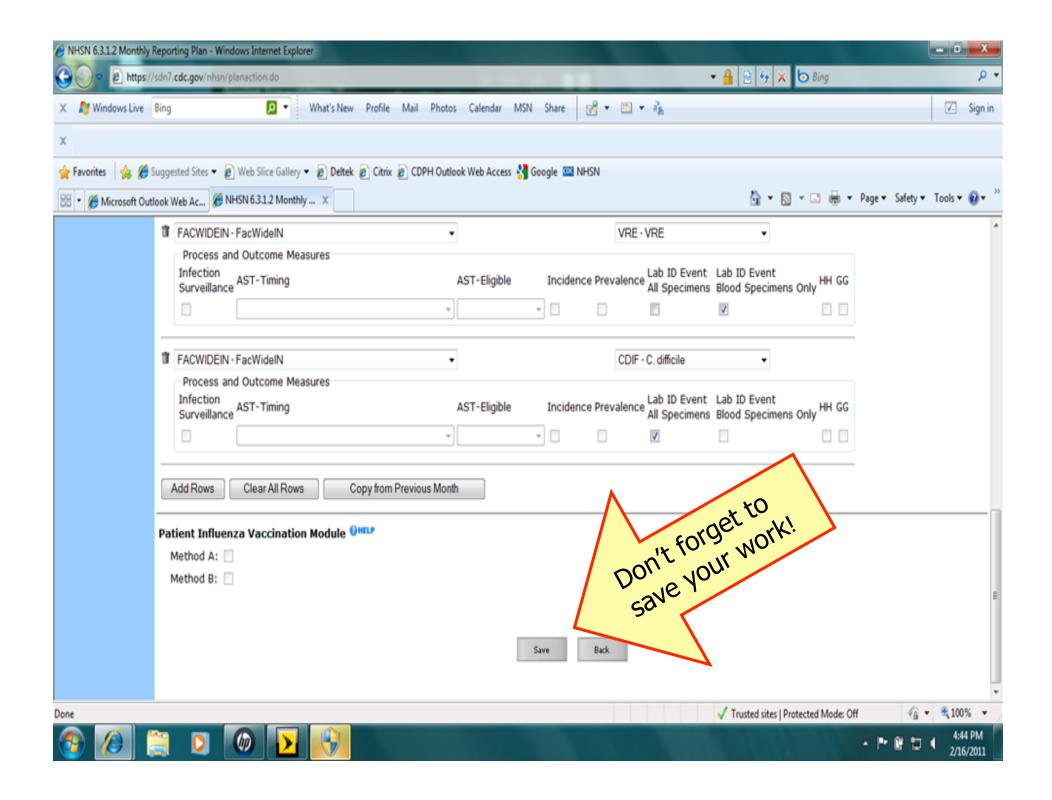
Monthly Reporting Plan

- Enter the procedures and events into the Monthly Reporting Plan under Procedure-associated Module
- The reporting plan informs NHSN (and CDPH) the surveillance to be performed during a given month and what data to expect









NHSN Operative Procedures

 Each NHSN operative procedure category consists of a group of ICD-9-CM codes

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Example: Hip prosthesis or HPRO = ICD-9 codes: 00.70, 00.71, 00.72, 00.73, 00.85, 00.86, 00.87, 81.51,81.52, 81.53
```

 When monitoring an NHSN operative procedure category, ALL listed ICD-9 codes within that category must be included





"Procedure" or Denominator Data

- Data for EACH surgical procedure included in your Reporting Plan must be entered each month as the denominator
 - Electronically via vendor-enabled Clinical Document Architecture (CDA) standards
 - Electronically via hospital-developed Comma Separated Variable (CSV) file format
 - Manually





Developing a CSV File to Import Procedure Data

- 1. Identify where (in what existing hospital systems or data bases) the required data fields reside
- 2. Work with hospital IT department, OR data system manager, medical records supervisor, and/or others
- 3. Determine how data elements might be made electronic if not already
- 4. Learn or seek assistance on how to develop the CSV file (or convert from an excel spreadsheet).



CSV files can be uploaded directly to NHSN





Importing Patient Safety Procedure Data

The NHSN will allow importation of procedure data in an ASCII comma delimited text file format. You can generate the import files from different external sources, such as databases or hospital information systems. The default import option allows the importation of procedures where the procedure date occurs in a month for which a Monthly Reporting Plan exists and the Plan specifies the procedure code in the import file record. If you wish to import records for procedures not in the Plan, you must specify which procedures to include.

Custom procedures can also be imported if they are first created on the custom options page.

Available on the NHSN website under Patient Safety Component "Related Material"





SSI Denominator Data

- For manual data entry, complete a Denominator Procedure form for each procedure
- Example: If monitoring HPRO, complete a
 Denominator for Procedure form for every patient
 who has a HPRO during the month

Note: Even if developing electronic files to import procedure data, completing forms for initial week(s) will allow you to learn the data elements required





Sources for Denominator Procedure Data

- Operating room record review
- Patient medical record
- OR logs
- ICD9-CM procedure codes
- Make friends with Medical Records if you haven't already!

Not a comprehensive list





SSI Denominator Data

- Some operative procedures have more than one incision
 - Example: CBGB in which an incision to harvest a donor vessel is made that is separate from the primary incision
- Record these procedures only one time
 - There is no separate procedure code for the donor harvest site.





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10	National Healthcare Safety Network

Denominator for Procedure

OMB No. 0920-0666 Exp. Date: 09-30-2012

* required for saving

Facility ID:	Procedure #:		
[⊁] *Patient ID:	Social Security #:		
Secondary ID:			
Patient Name, Last:	First: Middle:		
≭ *Gender: F M	★Date of Birth:		
Ethnicity (specify):	Race (specify):		
Event Type: PROC	★NHSN Procedure Code:		
★*Date of Procedure:	ICD-9-CM Procedure Code:		
Procedure Details			
*Outpatient: Yes No *Wound Class: C CC CO D U *SA Score: 1 2 3 4 5 *Trauma: Yes No Surgeon Code: *Implant: Yes No *Non-autologo	*Ouration:HoursMinutes *General Anesthesia: Yes No *Emergency: Yes No Yes No ous Transplant: Yes No		
CSEC: *Height:feetinches *Weight: _ (choose one)meters	lbs / kg		
Circle one: FUSN RFUSN *Spinal Level: (check one) Atlas-axis Atlas-axis/Cervical Cervical Cervical/Dorsal/Dorsolumbar Dorsal/Dorsolumbar Lumbar/Lumbosacral Not specified	*Diabetes Mellitus: Yes No *Approach/Technique: (check one) Anterior Posterior Anterior and Posterior Lateral transverse Not specified		
*HPRO: (check one) Total Primary	Partial Primary Total Revision Partial Revision		
*KPRO: (check one)Primary (Total)			
Custom Fields			
Label	Label		

Whether developing a CSV import file or entering procedure data manually, become familiar with the "Denominator Data for Events" fields

Comments

Duration

- Record the hours and minutes between the skin incision and skin closure
- Do not record anesthesia time
- If the patient goes to the OR more than once during the same admission and another procedure is performed through the same incision within 24 hours of the original incision, report the combined duration of operation for both procedures





Wound Classification

Clean I (C)

Uninfected wound, no inflammation; respiratory, alimentary, genital, or uninfected urinary tracts not entered; primarily closed; closed drainage, if needed.

Clean contaminated II (CC)

Respiratory, alimentary, genital, or urinary tracts entered under controlled conditions and without unusual contamination; include operations on biliary tract, appendix, vagina, oropharynx.





Wound Classification Continued

Contaminated III (CO)

Open, fresh, accidental wounds; major breaks in sterile technique or gross spillage from GI tract; includes incisions into acute, nonpurulent inflamed tissue.

Dirty / Infected IV (D)

Old traumatic wounds with retained devitalized tissue and those that involve existing clinical infection or perforated viscera.





ASA* Score

Used to proxy patient co-morbidities or underlying disease

- 1 = Normally healthy patient
- 2 = Patient with mild systemic disease
- 3 = Patient with severe systemic disease that is not incapacitating
- 4 = Patient with an incapacitating systemic disease that is a constant threat to life
- 5 = Moribund patient not expected to survive for24 hours with or without operation



*American Society of Anesthesiologists



Endoscope – Yes/No

- If the entire operative procedure was performed using an endoscope/laparoscope, select "Yes"
- Otherwise select "No"
- Exception: For CBGB, if the donor vessel was harvested using a laparoscope, select "Yes"





Implant – Yes/No

- A nonhuman-derived implantable foreign body (e.g., prosthetic heart valve, hip prosthesis) permanently placed during an NHSN operative procedure and not routinely manipulated for diagnostic or therapeutic purposes
- Screws, wires, and mesh that are left in place ARE considered implants





Non-autologous Transplant – Yes/No

 Transplant: Human cells, tissues, organs, or cellular- or tissue-based products that are placed in a human recipient via grafting, infusion, or transfer

Examples include: heart valves, organs, ligaments, bone, blood vessels, skin, corneas, and bone marrow cells

- Autologous or "autograft" are products that originate from the patient's own body
- Non-autologous or "allografts" are tissues or other products <u>derived from another human body</u>, either a donor cadaver or a live donor

Select "Yes" ONLY for Non-autologous transplants





More Fields Requiring Yes/No Response

Emergency

"Yes" if non-elective, unscheduled operative procedure

Trauma

"Yes" if operative procedure performed because of blunt or penetrating injury to patient

General anesthesia

"Yes" for administration of drugs or gasses that enter the general circulation and affect the central nervous system to render the patient pain-free, amnesic, unconscious, and often paralyzed with relaxed muscles

Surgeon Code

- Optional field
- Select the hospital-assigned code of the surgeon who performed the principal operative procedure

Why monitor by surgeon?

Feedback of surgeon-specific data has been clearly demonstrated to lower SSI rates



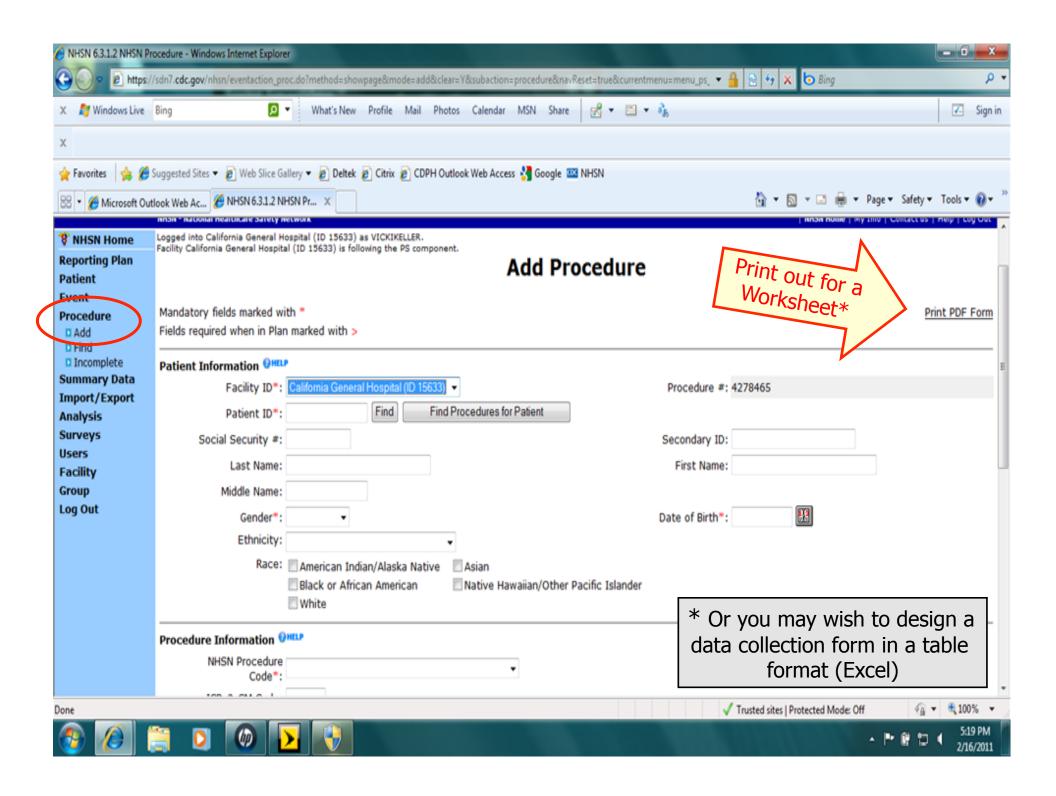


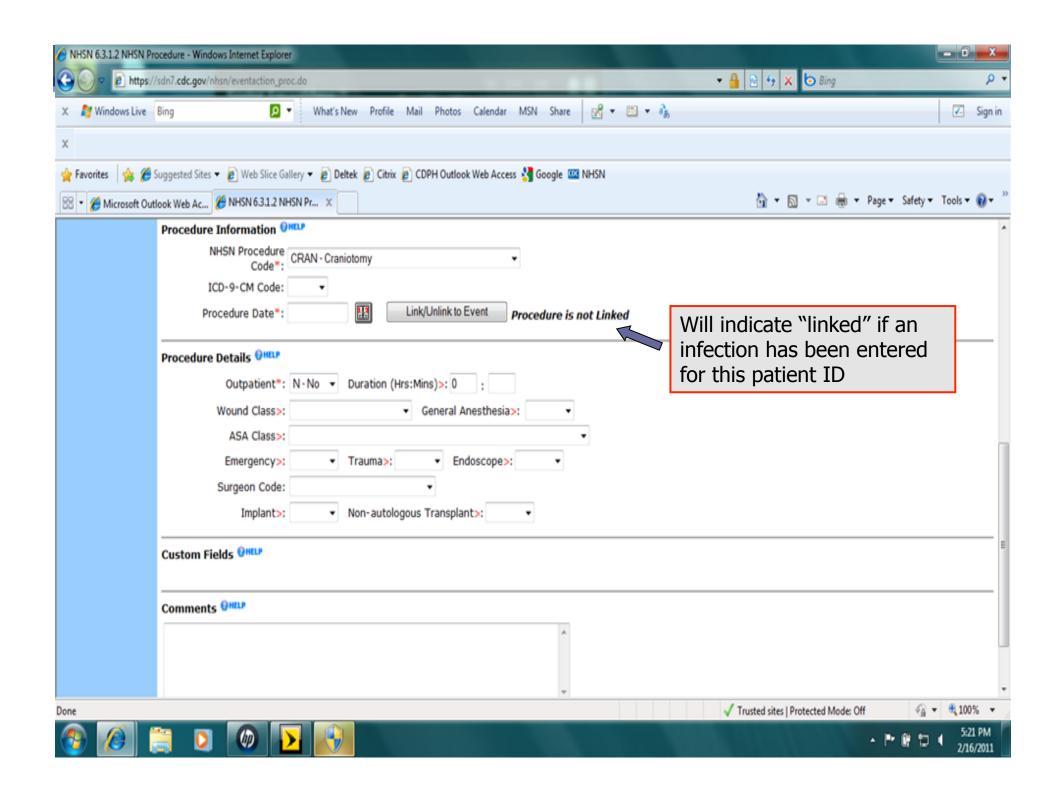
Your worksheet is completed -Now let's put the procedures into the computer











Reporting SSI

- Perform surveillance to identify SSI
- Enter SSI Events into the NHSN system





Finding SSI – how?

- Follow NHSN protocols for surveillance
- Evaluate surgical patients during same admission
- Evaluate positive wound cultures
- Work with surgical services and surgical unit staff to develop process for alerting to possible SSI
- Monitor surgical patients for re-admission
- Perform post-discharge surveillance





Examples of SSI Data Sources

- Microbiology reports
- Re-admission of surgical patients
- Infection control rounds on nursing units
- Pharmacy reports for antimicrobial use
- Temperature chart/log
- Operating room report of surgeries
- Post-discharge SSI surveillance methods





Examples of SSI Post-discharge Sources

- Readmissions to other hospitals
- Emergency department or clinic records
- Health care system/HMO may have laboratory and pharmacy records for antimicrobial agents
- Surgeon surveys phone, mail or FAX
- Patient surveys less reliable





Superficial Incisional SSI





Deep Incisional SSI

Surveillance Definition
☐ Infection occurs within 30 days after surgical procedure if no implant
or within 1 year if implant
AND
☐ Involves deep soft tissues of the incision, e.g. fascial & muscle layers
AND
Patient has at least 1:
□Purulent drainage from deep incision but not from the organ/space of
the surgical site
□Deep incision spontaneously dehisces or opened by surgeon AND is
culture positive or not cultured AND fever >38°C, localized pain, or
tenderness
□Abscess or evidence of deep infection found on direct exam, during
reoperation, by histopathologic or radiologic exam
Diagnosis of deep SSI by surgeon or attending physician
The decassolidated in

Primary vs. Secondary Incisional SSI

Primary Incisional

A superficial incisional SSI (SIP) or deep incisional SSI (DIP) identified in the primary incision site for procedures with one incision or more than one incision

Examples: C-section incision (only 1 incision); Chest incision for CAGB (incision in chest, 2nd in leg)

Secondary Incisional

A superficial incisional SSI (SIS) or deep incisional SSI (DIS) identified in the <u>secondary</u> incision site for procedures with one incision or more than 1 incision

Example: leg donor site incision for CBGB



Organ Space SSI

Surveillance Definition

☐ Infection occurs within 30 after surgical procedure if no implant or within 1 year if implant

AND

☐ Involves any part of body that is opened or manipulated during the surgical procedure; excludes skin, fascia, or muscle layers, and subcutaneous tissue of the incision

AND

Patient has at least 1:

- □Purulent drainage from drain placed through stab wound into organ/ space
- □Organism isolated from incision culture or fluid (obtained aseptically)
- □Abscess or evidence of organ/space infection found on direct exam, during reoperation, by histopathologic or radiologic exam



Classifying Organ/Space SSI

- When SSI occurs in an organ or organ space related to the procedure, specific infection sites are assigned to further identify the location of the infection
- Examples
 - Hip Prosthesis (HPRO) with subsequent osteomyelitis would be reported as SSI-BONE
 - CBGB with mediastinitis would be reported as (SSI-MED)





SSI Numerator Data

- Use Surgical Site Infection (SSI) form for each SSI identified during the month
- Indicate the specific site of the SSI
 - SIP
 - DIP
 - SIS
 - DIS
 - Organ/Space (-select site)





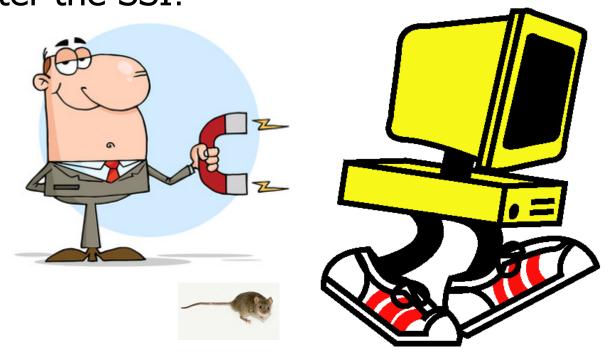
Pathogen Data

- List up to 3 pathogens for each SSI identified (in rank order of importance)
- For each pathogen, complete information about antimicrobial susceptibilities
- Only certain bug/drug combinations are <u>required</u>, but up to 20 drugs can be listed with susceptibilities



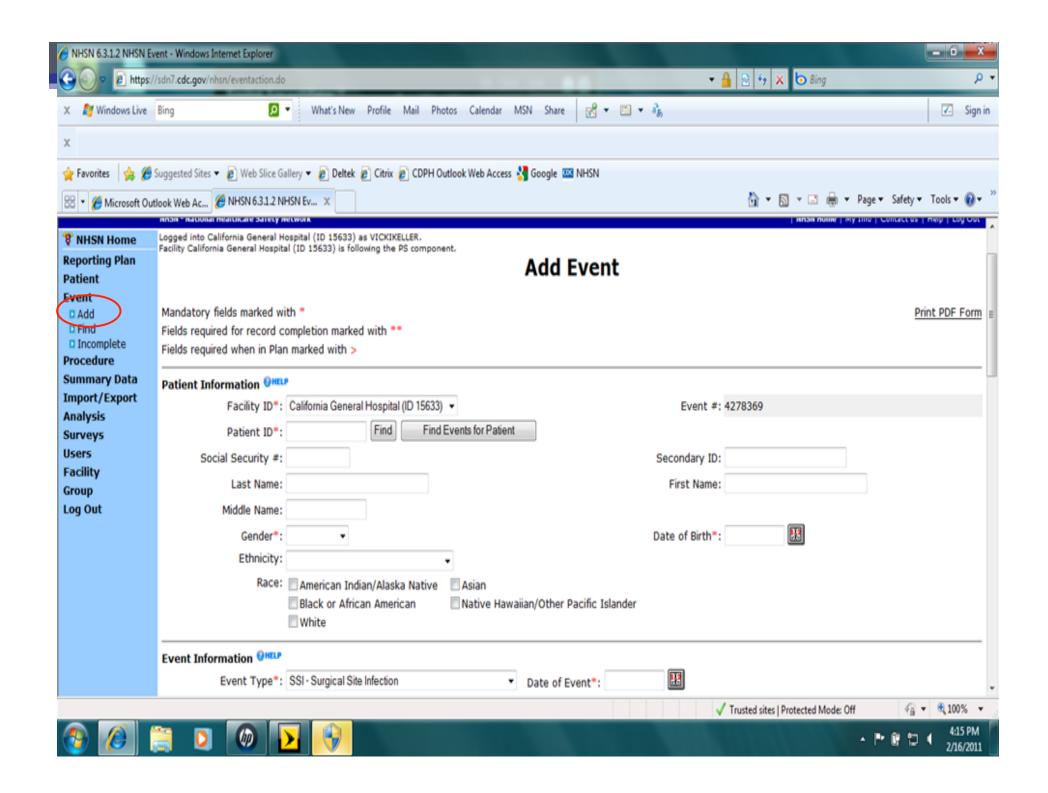


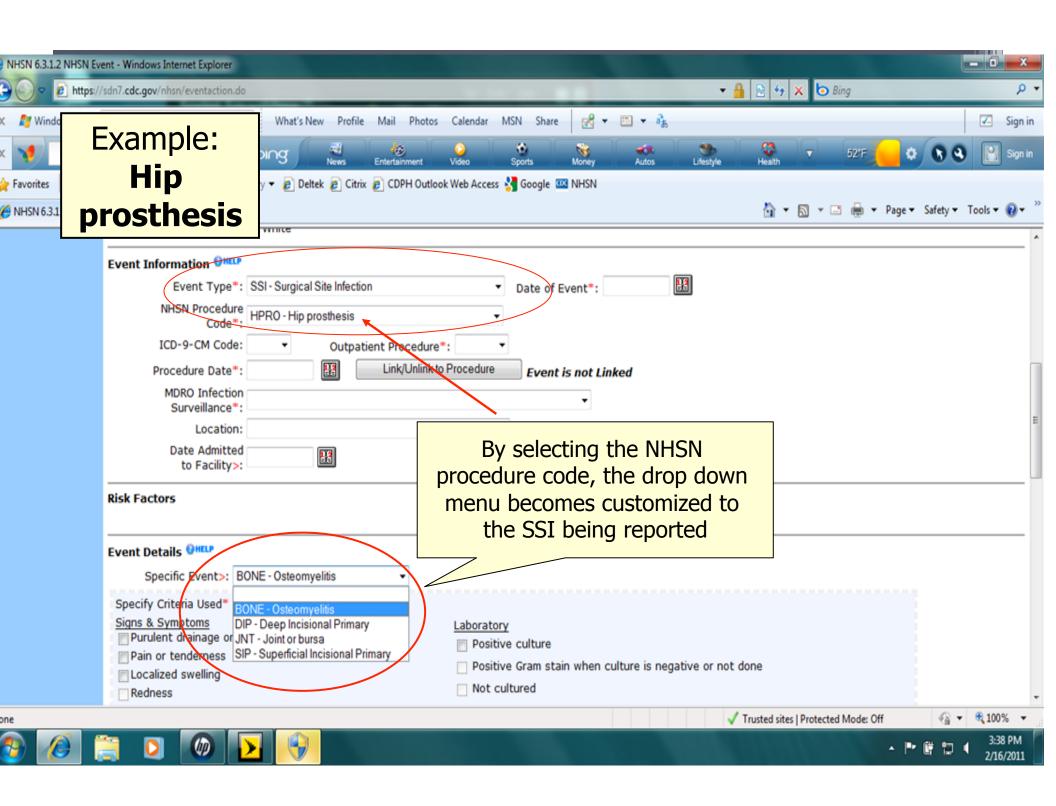
You've finished the work sheet -Now let's go to the computer to enter the SSI!

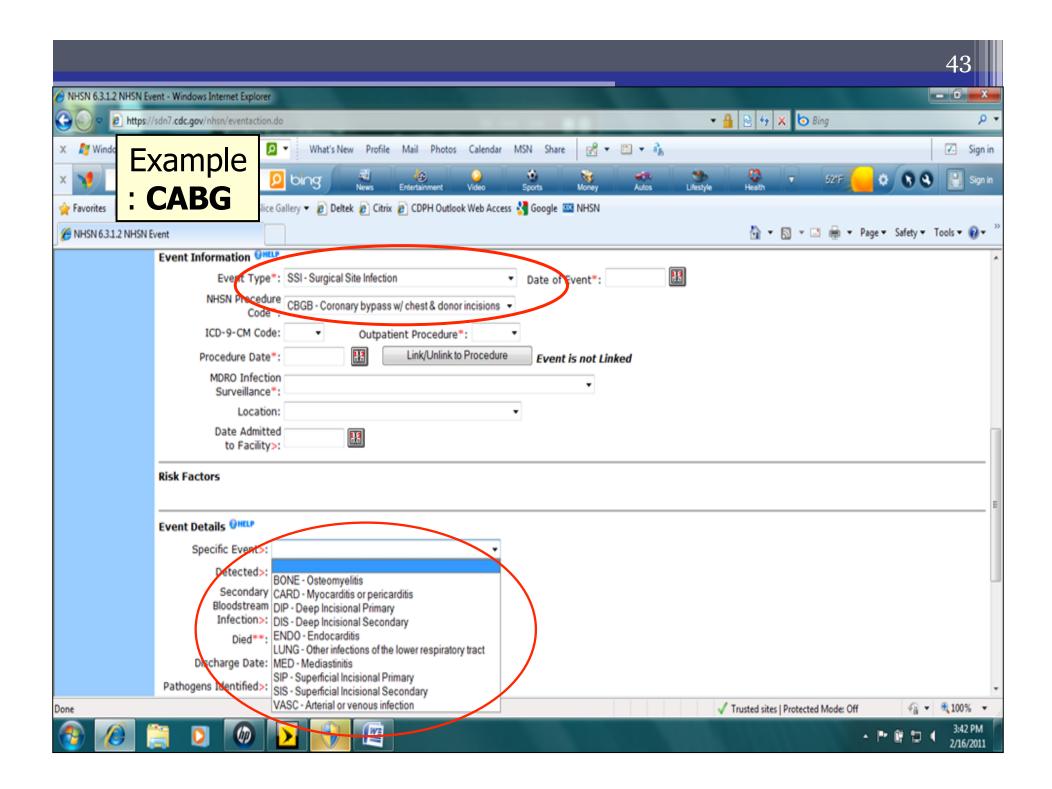


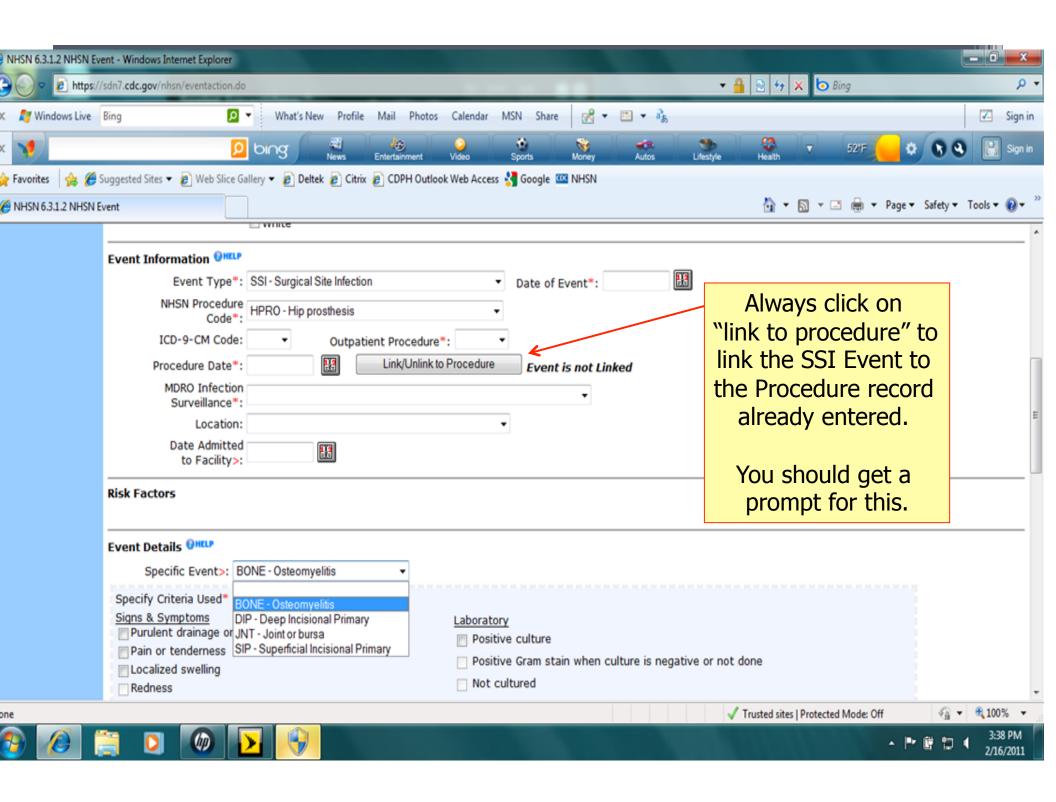


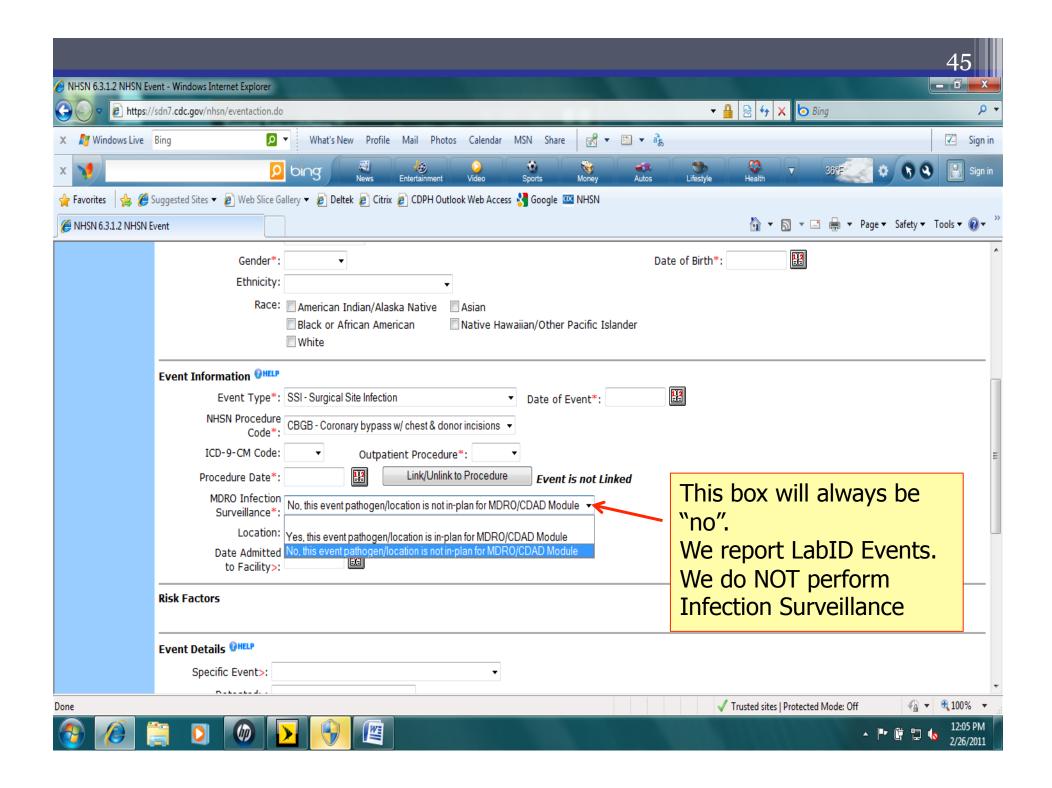


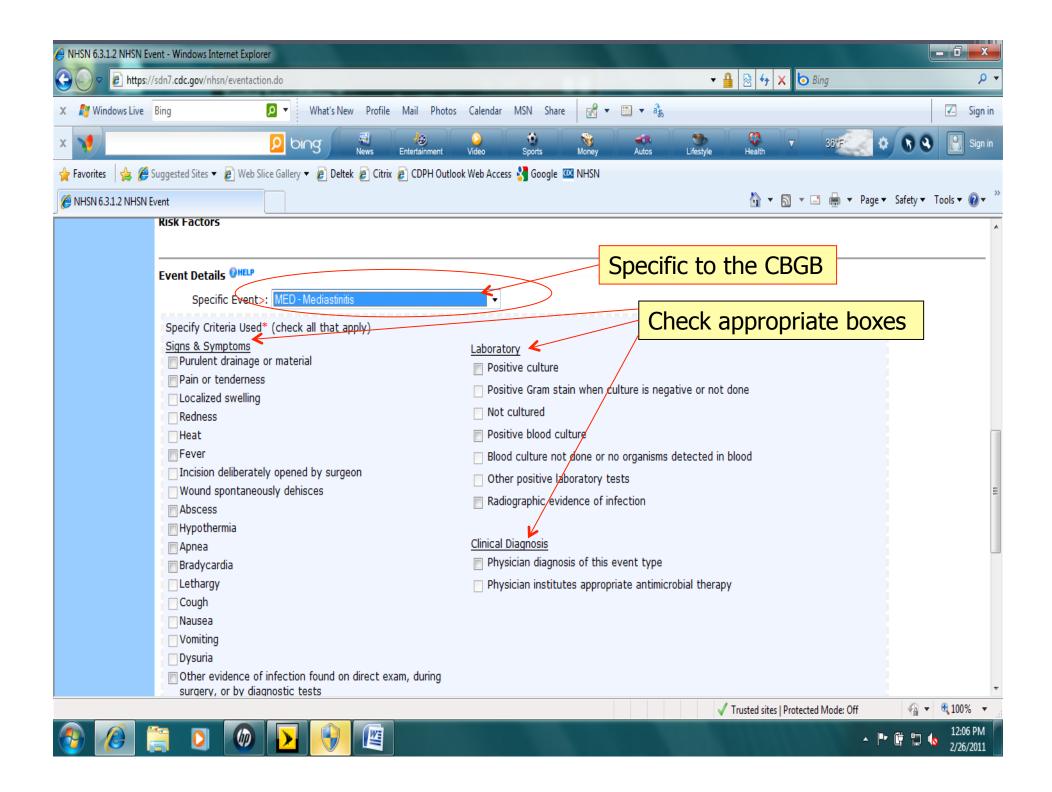


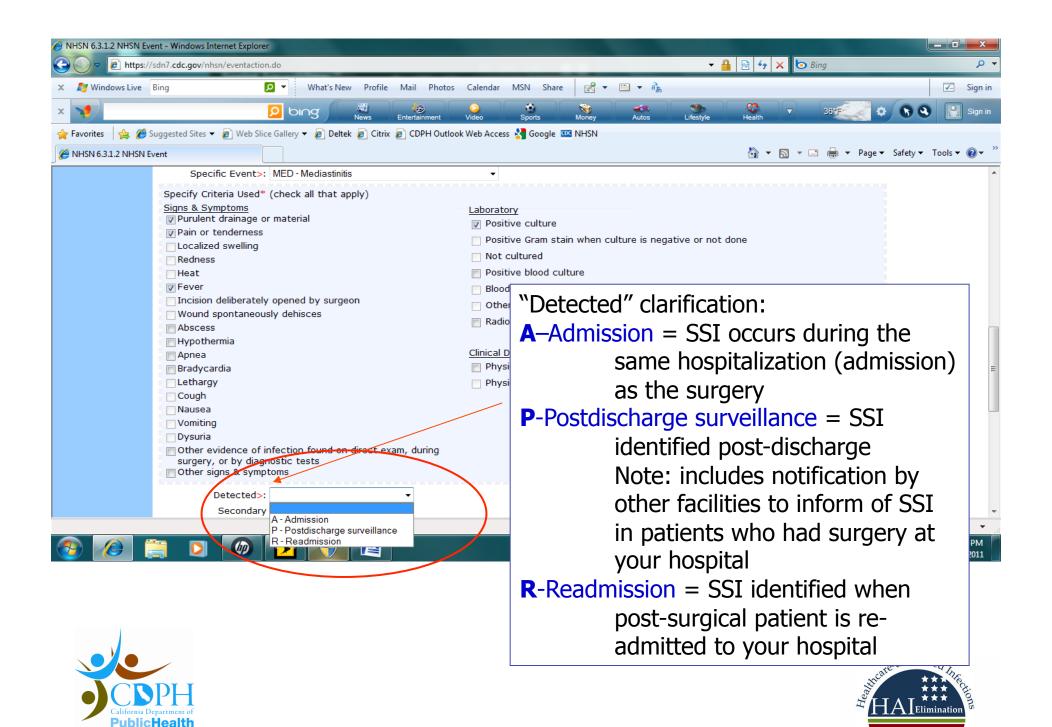






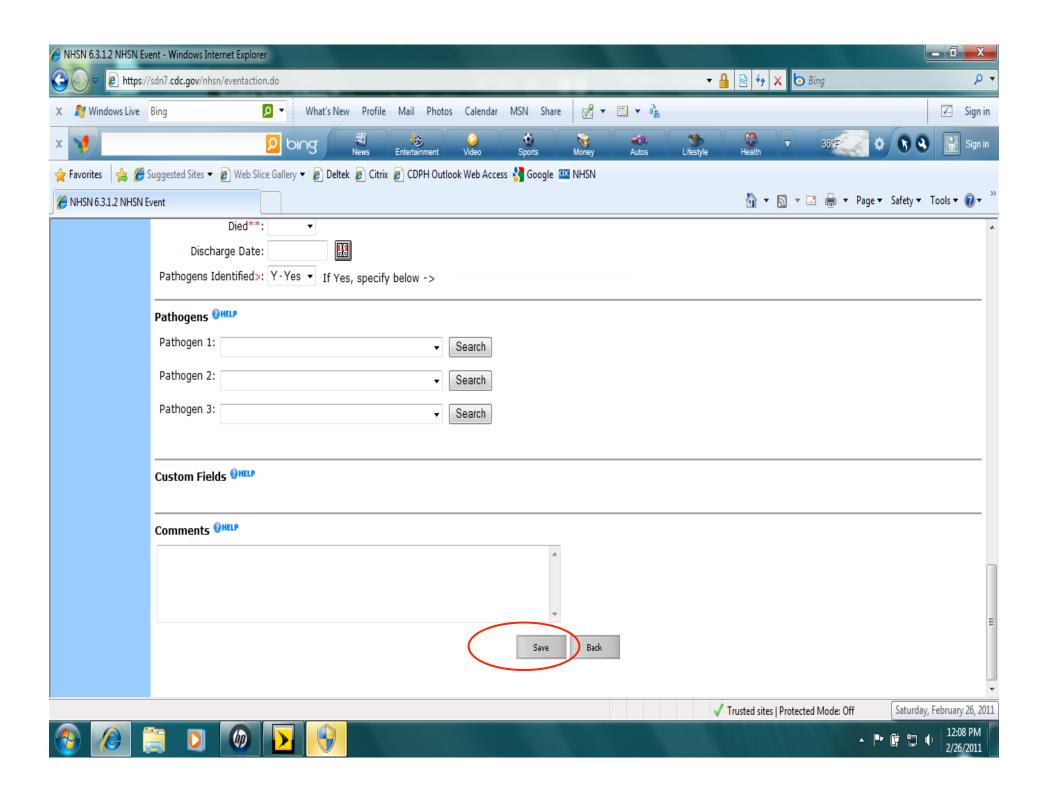






Completed SSI Data Entry Screen

athogens	
Pathogen 1: SA - Staphylococcus aureus	▼ 10 drugs required
Drug	Result
OX - Oxacillin	R - Resistant
DAPTO - Daptomycin	N - Not Tested
CLIND - Clindamycin	R - Resistant
GENT - Gentamicin	R - Resistant
ERYTH - Erythromycin	R - Resistant
LNZ - Linezolid	N - Not Tested
QUIDAL - Quinupristin/dalfopris	tin N - Not Tested
RIF - Rifampin	S - Susceptible *
TMZ - Trimethoprim/sulfametho	xazole ▼ S - Susceptible ▼
VANC - Vancomycin	S - Susceptible -



Completed SSI Data Entry Screen

Event	☑ Event 2487143 saved suc	cessfully.		
□ Add		, .		
□ Find			Print	
□ Incomplete	Mandatory fields marked with *			
Procedure	Fields required for record completion marked with ***			
Summary Data	Fields required when in Plan marked with >			
Import/Export				
Analysis	Patient Information OME.P			
Surveys	Facility ID*: DHQP Memorial Hos	: DHQP Memorial Hospital (10000) Event #: 248		
Users	Patient ID*: 36912			
Facility	Social Security #:		Secondary ID:	
Croup	Last Name: Green		First Name: Kelly	
Log Out	Middle Name:			
	Gender*: M - Male		Date of Birth*: 03/11/1962	
	Ethnicity: NOHISP - Not Hispa	thnicity: NOHISP - Not Hispanic or Not Latino		
	Race: American Indian//			
	X Black or African White		Native Hawaiian/Other Pacific Islander	
Event Information OHELP Event Type*: SSI - Surgical Site Infection Date of Event*: 10/25/2009				
ICD-9-CM Code: Outpatient*		nt": N - No		
	Procedure Date*: 10/12/2009 Eve	ent Linked		

Questions?



HAI Liaison Program

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